

ABSTRACT

A semiconductor device includes a state code register that stores a state code representing a present internal state. A state transition logic unit is configured to determine a state code for a next internal state to be transited in accordance with a predetermined logic, based on a state code provided from the state code register and an input command instructing transition to a required state, and to set the determined state code into the state code register with synchronizing an internal clock. An expected value register is configured to hold an internal state to be detected, as an expected value code and a comparing unit compares the state code set in the state code register by the state transition logic unit to the expected value code in the expected value register and supplying an equal state signal when they coincide.